TORONTO TRANSIT COMMISSION

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1

March 31, 1983

Mr. W.J. Lotto
Metropolitan Toronto Clerk
The Municipality of
Metropolitan Toronto
Second Floor, City Hall
Toronto, Ontario
M5H 2N1

Dear Mr. Lotto:

The Commission has received and approved the attached report, "Request for Proposals for the Supply and Operation of Vehicles for Wheel-Trans."

The following recommendations have been approved:

1. The principle of transferring ambulatory Subscription riders from taxis to station wagons operated by the small bus contractor;

2. Awarding a three-year contract with a two-year option to All-Way Transportation Corporation with the cost per vehicle hour of $27.234 for small buses and $23.850 for station wagons subject to the receipt of necessary approval from Metropolitan Toronto. These prices are subject to escalation based on annual increases in the Toronto Consumer Price Index;

3. Forwarding a copy of this report to Metropolitan Toronto for their approval; and,

4. Submitting a copy of this report to the Wheel-Trans Advisory Committee for information.

...2/

The proposal received from All-Way Transportation Corporation had an expiry date of March 26, and it was necessary to obtain a 60-day extension, which has been granted to the Commission. In view of this, it would be appreciated if approval by the Metropolitan Council could be obtained as soon as possible.

Yours very truly,

(for) D.C. Phillips
General Secretary

1-91-64

Outside copy: Mr. David Lacey,
Chairman of the Wheel-Trans
Advisory Committee

Form 601740. May 82

TORONTO TRANSIT COMMISSION

MEETING DATE March 22, 1983

DATE March 21, 1983 REPORT NO.

SUBJECT REQUEST FOR PROPOSALS FOR THE SUPPLY AND OPERATION OF VEHICLES FOR WHEEL-TRANS

RECOMMENDATION

It is recommended that the Commission approve the following:

1. The principle of transferring ambulatory Subscription riders from taxis to station wagons operated by the small bus contractor.
2. Awarding a three year contract with a two year option to All-Way Transportation Corporation with the cost per vehicle hour of $27.234 for small buses and $23.850 for station wagons subject to the receipt of necessary approval from Metropolitan Toronto. These prices are subject to escalation based on annual increases in the Toronto Consumer Price Index.
3. Forwarding a copy of this report to Metropolitan Toronto for their approval.
4. Submitting a copy of this report to the Wheel-Trans Advisory Committee for information.

(A.H.S.) (L.G.B.)
(W.G.C.) (J.H.J.)

History

At its meeting on December 9, 1982, the Commission authorized the calling of proposals for the supply and operation of vehicles for Wheel-Trans service commencing November 1, 1983 and terminating October 31, 1986 with a two year option. Sealed proposals were subsequently submitted by Charterways Transportation Limited, Metro Cab Inc., and All-Way Transportation Corporation, with Travelways School Transit Limited declining. A committee consisting of representatives from various staff departments was established to review the submissions and to make a recommendation on future action.

REQUEST FOR PROPOSALS FOR THE
SUPPLY AND OPERATION OF VEHICLES
FOR WHEEL-TRANS

Discussion

The Commission Request For Proposal contemplated a mix of vehicles including the Thomas Mighty Mite which is currently in service and a smaller vehicle that would accommodate both the ambulatory and wheelchair passenger. The Thomas Mighty Mite vehicle was referred to as Vehicle A in the proposal and the smaller vehicle, an example of which would be the G.S.M. taxi, was referred to as Vehicle C.

Prior to the closing date of January 24, 1983, all potential proposers were invited to a pre-proposal meeting which was held at Commission offices. The purpose of this meeting was to assist proposers with any difficulties they may have had in interpreting the requirements or specifications relating to the Request For Proposal. At the meeting, the review committee specifically asserted that the G.S.M. Taxi described and referred to as an example of Vehicle C was not going to be available within the time frame available and therefore, an alternate to the G.S.M. Taxi was expected.

Proposal Analysis

Of the three proposals received, the Metro Cab Inc. submission was without the required agreement to bond with bond attached. In addition, the cost per vehicle hour quoted was significantly higher than the others. On this basis the proposal was rejected.

The Charterways Transportation Limited proposal was reviewed and considered informal as a result of an incomplete Form of Proposal. It was clearly set out in the Instructions to Proposers that their proposal must have prices for all vehicle types in order to be valid. The Charterways Transportation Limited proposal included prices for Vehicle A only. Further, the Charterways price per vehicle hour for Vehicle A was the second highest and significantly higher than the lowest costs submitted. Therefore, no further consideration was given to this proposal.

All-Way Transportation Corporation's proposal offered the lowest costs and conformed in all respects to the Commission's Request For Proposal.

REQUEST FOR PROPOSALS FOR THE SUPPLY AND OPERATION OF VEHICLES FOR WHEEL-TRANS

WHEEL-TRANS

Request for Proposal Summary
March 1983

		All-Way	Charterways	Metro Cab
Proposal Deposit		Yes	Yes	Yes
Letter of Credit		Yes		No
Agreement to Bond			Yes	No
Rate Per hour	Part 1			
	Vehicle A	33.05	40.65	49.00
	B	47.62	No Price	49.00
	Part 2			
	Vehicle C	27.38	No Price	35.00
	Part 3			
	Vehicle C	34.10	No Price	35.00

(Rates subject to escalation based on the Toronto Consumer Price Index)

Therefore, due to 1983 budget limitations and the desire to phase in newer, more suitable vehicles as they become available, the review committee opened negotiations with All-Way Transportation Corporation with respect to an alternate proposal from All-Way to provide an upgraded existing fleet at a cost per vehicle hour of $27.624 which will be the prevailing rate for service as of October 31, 1983.

Given the previous comments regarding the phasing in of newer more suitable vehicles, it was felt that the upgrading of the current fleet was not necessary in the short term. Staff, therefore, negotiated a $0.39 reduction in the $27.624 cost per vehicle hour thereby reducing the cost to $27.234.

In 1981 the Wheel-Trans Long Range Planning Sub-Committee hired the I.B.I. Group to review the Wheel-Trans service and identify alternate methods of providing transportation for the disabled. A major recommendation in their report dated January 1982 was to provide exclusive and shared ride taxi service to the ambulatory passengers. The Commission was asked to review and report on this recommendation as it relates to the Wheel-Trans service. This report has now been completed

by staff and is attached for the consideration of the Commission. It should be noted that the issues relating to the cost of this proposal and the related operational considerations are discussed in detail. The final recommendation stemming from this report is as follows:

> It is recommended that the current van contractor be contacted to investigate the possibility of supplying a higher quality ambulatory vehicle, such as the current station wagon or G.S.M. small vehicle, at a rate comparable to that of the current taxi service. Simultaneous with this, accounts and an appropriate payment scheme should be set up with the taxi industry to allow extra service to be made available on two hours notice to accommodate usually high peak demands.

Acting on this recommendation, further negotiations with All-Way Transportation Corporation provided for the increased supply of station wagons at a cost per vehicle hour of $23.850. It is intended that the ambulatory riders currently transported by taxi be transferred to these station wagons supplied by the All-Way Transportation Corporation.

Major highlights of the contract are as follows:

1. The contract covers the period from November 1, 1983 to October 31, 1986 with an option for a two year extension to be exercised at the discretion of the Commission.
2. The Commission has complete flexibility with respect to the level of hours of service to be operated by the contractor.
3. All Subscription and Non-Subscription fares will be retained by the Commission and the Contractor is responsible for the collection and submission of these fares to the Commission on a monthly basis.
4. The Contractor is required to provide either a Performance Bond or an irrevocable letter of credit in the amount of $200,000.
5. The contract provides for the phasing in of newer more suitable vehicles that will accommodate both the ambulatory and wheelchair passenger when they become available.

APPENDIX A

Contract Costs

Total Estimated Contract Costs (in $000's)

1983 (2 months)	920
1984	6,480
1985	8,190
1986 (10 months)	8,390
	23,980

With two year option	
1986 (2 months)	1,780
1987	12,250
1988 (10 months)	11,560
	49,570

Assumptions

(1) Escalation at 9% per year

(2) The following service

- 1983: No increase over service provided on December 31, 1983
- 1984: An additional 17,000 hours of service over that provided in 1983
- 1985: An additional 35,000 hours of service over that provided in 1984
- 1986: An additional 36,000 hours of service over that provided in 1985
- 1987: An additional 31,000 hours of service over that provided in 1986
- 1988: No increase in service over that provided on December 31, 1987

6. That staff within the contract intend to commence a programme of testing new vehicles expected to be available in the fall of 1983.

Funding

Funding for Wheel-Trans is assumed by the Municipality of Metropolitan Toronto who in turn receives a subsidy from the Province of Ontario. Under current subsidy rules, the Province pays Metro a sum equal to 50% of total expenditures (operating plus capital), subject to a maximum based on population. This per capita subsidy has been adjusted each year and amounts to $1.70 for Toronto for 1983. It should be noted that all costs, including TTC staff associated with Wheel-Trans, are subject to this funding.

The 1983 Wheel-Trans budget has been submitted to Metro's Budget Sub-Committee. The proposed rates for the contract service to be in effect for November and December 1983 will not significantly affect this budget.

The current Ontario Municipal Board order covers the twelve months ending October 31, 1983. It will be necessary for the Municipality to obtain OMB approval for the total Wheel-Trans cost during the proposed three year contract expiring October 31, 1986. Total Wheel-Trans cost for the three year period, November 1, 1983 to October 31, 1986 including contracted service, TTC staff costs and related expenditures, less revenue, is estimated to be $29,000,000. Anticipated year-by-year net costs are as follows:

1983 (two months)	$ 1,200,000
1984	8,000,000
1985	9,900,000
1986 (ten months)	9,900,000
	$29,000,000

Appendix A details the contract costs included in the above.

1-90-38

Attached hereto - Appendix A - Contract Costs
- Role of Ambulatory - Only Vehicles in Wheel-Trans

ROLE OF AMBULATORY — ONLY VEHICLES IN WHEEL-TRANS

Toronto Transit Commission
January 1983

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1. INTRODUCTION

The purpose of this report is to investigate the feasibility of implementing one of the recommendations made by the I.B.I. Group in their report titled "Evaluation of the Wheel-Trans Transportation Service for the Disabled". A major recommendation of this report was to transfer the ambulatory patrons currently serviced by lift-equipped buses to exclusive and shared-ride taxis. Although the I.B.I. study recommended the use of exclusive ride taxis, the subsidy arrangements with the Ministry of Transportation and Communications, require the operation of service to be in the existing shared-ride mode. Therefore, exclusive ride taxi service is not currently feasible and will be more expensive than a shared ride service which can effect cost savings by grouping similar trips.

The estimated potential use of ambulatory-only vehicles and various modes of operation are described in this report. The I.B.I. report recommended the use of general public taxi services with the costs determined at the metered rate (combination of waiting time and distance based). The economics and operation of such a service are compared with other options.

Concern has also been expressed that if the ambulatory riders are transferred from lift-equipped vehicles to ambulatory-only vehicles that the level of service for the wheelchair-confined would be reduced. This is because the increased use of ambulatory-only vehicle hours will require a similar reduction in lift-equipped vehicle hours to keep within the pre-determined budget constraints. The effects of such a change are also documented.

2. WHEEL-TRANS SERVICE DEMAND CHARACTERISTICS

There are approximately 7,000 disabled registered for the Wheel-Trans service, of which 36% are wheelchair and 64% are ambulatory registrants. The trip-making characteristics of these individuals show that the wheelchair disabled make almost twice as much usage of the Wheel-Trans service on a rides per capita basis as do the ambulatory disabled. This results in an actual ridership split of about 50% wheelchair riders and 50% ambulatory riders.

The difference in the trip making characteristics can be accounted for by the fact that the ambulatory currently have a wider range of alternative transportation modes available to them than the wheelchair disabled. Many of the ambulatory are capable of using their own automobiles, can occasionally use public transit or can be accommodated as a passenger in a car. This fact is important in estimating a possible latent demand by the ambulatory which would need to be accommodated if a higher level of service, such as guaranteed a ride for ambulatory, were to be introduced. If the ambulatory were to double their per capita trip-making rate to equal that of the wheelchair patrons, up to 50% additional vehicle-hours of Wheel-Trans service would be required to satisfy this demand.

3. WHEEL-TRANS SERVICE SUPPLY ALTERNATIVES

The supply of a door to door public transit service for the wheelchair disabled requires some form of a specialized vehicle, such as a van or mini-bus which is equipped with a wheelchair lift. However, recent developments in manufacturing are making available specialized vehicles that can lower their floor to curb height and allow level boarding (e.g. O.B.I. small bus) or that utilize a low floor passenger car format, but will accommodate both the wheelchair and

ambulatory disabled (e.g. GSH Taxi). The provision of service to the wheelchair disabled population has few vehicle options outside of those mentioned above.

The ambulatory disabled, on the other hand are capable of being accommodated in all of the above vehicles and, in addition, on all regular passenger automobiles.

Discussions with the Ministry of Transportation and Communications' officials indicate that an exclusive ride taxi service, as recommended in the IBI report, could not be considered as a form of public transit. They indicate that the general operation of the Wheel-Trans service must be in a shared ride mode to be eligible for subsidy. This could include the option of shared ride taxis.

Similar discussions with the Metropolitan Toronto Licensing Commission indicate that the operation of a regular taxicab in a shared-ride mode would not contravene any licensing bylaws, since the taxicab would be chartered and paid for by only one party, the Toronto Transit Commission.

4. COST AND OPERATIONAL ANALYSIS

4.1 Re-Scheduling Study

A study was conducted to investigate the effect of segregating the rider population and scheduling them onto wheelchair-only vehicles and ambulatory-only vehicles. TTC staff, in co-operation with the current bus contractor conducted a scheduling test of this concept for the trips requested on the day of Sunday, June 20, 1982.

The basic methodology for this study was that the total number of vehicle hours available in this simulation would be identical to that actually provided on the day of June 20, 1982. However, the total number of vehicles would

be split into wheelchair-only vehicles and ambulatory-only vehicles according to rider demands on that day. On Sunday, June 20, one-third of the trip requests were made by ambulatory riders, with the remaining made by wheelchair-confined individuals. Thus, for the simulation purposes, the normal 12-vehicle fleet for that day was split into 8 lift-equipped vehicles and 4 ambulatory-only vehicles (such as station wagons or taxis). The two groups of trip requests were then scheduled onto their respective vehicles by TTC and the bus contractors staff.

The results of this simulation were very enlightening. The reduction of the number of vehicles available to wheelchair disabled from 12 to 8 buses caused very little change in the rejected trip request rate of about 4%. However, the reduction in the number of vehicles available to the ambulatory disabled from 12 to 4 caused a sharp increase in the no-ride rate from the actual 4% to a new 14%. This large increase in the rejection rate indicates that inefficiencies would occur when attempting to operate over the whole of the Metropolitan Toronto area with a small fleet.

The segregation of the ambulatory and wheelchair disabled would not be recommended during the low demand periods of weekend and evening service. If the typical rider figures of 50% wheelchair disabled are used, then the use of such a policy would only provide 4 to 6 vehicles for the wheelchair disabled during these periods. Even with a possible increase of one lift-equipped vehicle due to cost savings in using ambulatory-only vehicles, the number of rejected trips and alternate time bookings will increase.

During the test scheduling, the capacity constraint of 3 to 4 persons for an ambulatory-only vehicle was not found to be a problem. However, it should be noted that during the weekday peak periods, certain ambulatory-only runs would be more effectively served by one larger capacity

vehicle such as the current bus, rather than two regular passenger automobiles.

Noting the requirement to maintain a minimum service level of vehicles throughout the Metropolitan Toronto area, it appears that the possible periods for the increased use of ambulatory vehicles are the AM peak, mid-day and PM peak periods. In the peak periods, approximately one-third of the vehicles used are currently ambulatory-only vehicles. There appears to be a potential to increase this to 50% or about an additional 10 to 15 ambulatory-only vehicles. A similar reduction of 8 to 12 lift-equipped buses would need to occur to accommodate this increase within a fixed budget.

All of the mid-day service is currently supplied with lift-equipped vehicles. The potential exists for converting approximately 50% or about 15 to 25 of these, to ambulatory-only vehicles.

The current distribution of the number of vehicles throughout the day is shown in Figure 1.

If a policy of converting 50% of the fleet in the mid-day to ambulatory-only vehicles is pursued then some concern is expressed at the fact that some of the lift-equipped vehicles might only operate during the peak periods. Since the capital costs of such expensive vehicles is fixed, regardless of whether they operate 6 or 12 hours a day, the reduction in the number of operating hours per day for these vehicles will cause the contracted hourly operating rate to rise to cover the capital costs of acquiring the equipment for a fixed contract length. It is recommended that the request for proposals for the next term of the bus contract request unit costs for various categories of daily hours of bus operation. As a minimum, this should be for the current 12 hours per day. Further, to ensure a reasonable capital depreciation rate, a five year contract should be let.

Figure 1: Vehicles and Hours of Operation

MONDAY TO FRIDAY
(6:30 am - 6:30 pm)

6:30 am -	7:00 am -	30 vehicles
7:00 am -	7:30 am -	39 vehicles
7:30 am -	8:00 am -	42 vehicles + 21 taxis
8:00 am -	10:00 am -	45 vehicles + 21 taxis
10:00 am -	1:00 pm -	44 vehicles
1:00 pm -	2:00 pm -	46 vehicles
2:00 pm -	6:30 pm -	47 vehicles + 21 taxis

MONDAY TO FRIDAY
(6:30 pm - Midnight)

6:30 pm -	7:00 pm -	28 vehicles
7:00 pm -	7:30 pm -	22 vehicles
7:30 pm -	11:30 pm -	10 vehicles
11:30 pm -	12:30 mn -	8 vehicles

SATURDAY

9:00 am -	2:00 pm -	14 vehicles
2:00 pm -	3:00 pm -	12 vehicles
3:00 pm -	4:00 pm -	14 vehicles
4:00 pm -	6:00 pm -	13 vehicles
6:00 pm -	9:00 pm -	12 vehicles
9:00 pm -	12:00 mn -	11 vehicles

SUNDAY

9:00 am -	2:00 pm -	13 vehicles
2:00 pm -	3:00 pm -	11 vehicles
3:00 pm -	7:00 pm -	13 vehicles
7:00 pm -	9:00 pm -	12 vehicles
9:00 pm -	12:00 mn -	11 vehicles

HOLIDAYS

9:00 am -	12:00 nn -	10 vehicles
12:00 nn -	2:00 pm -	11 vehicles
2:00 pm -	3:00 pm -	9 vehicles
3:00 pm -	9:00 pm -	10 vehicles
9:00 pm -	12:00 mn -	8 vehicles

Toronto Transit Commission
September 10, 1982
1-59-51

4.2 Cost Comparison of Wheel-Trans Contract Taxi and Regular Public Taxi Rates (Base Date of February 1, 1982)

The current contract taxi rate by which the Wheel-Trans subscription taxi is provided was put into place on February 1, 1982. However, the taxi meter rate which was used in the IBI study was put into effect almost a year earlier in April, 1981. A pro-rated inflation factor must thus be applied to the meter rates in order to allow equal comparison with the contract taxi rate.

The IBI study also did not consider the fact that all taxi companies will levy an administrative surcharge on top of the metered fare to "charge account" customers who are billed on a monthly basis for taxi services they have received. Most commercial account customers will also add on additional 10 to 15% to the metered rate to account for the tip that the driver would normally receive. The following is thus a revised cost comparison of the taxi services for the contract rate versus the metered rate structure.

- From the IBI Report (P. A-4), the average fare for a 9.1 km trip is $7.05. This represents a cost of $.775/km.

- Meter runs analyses of regular taxi trips conducted by staff from the Metro Toronto Licensing Commission provide similar figures in the range of $.78 to $.80 per kilometre for the earnings of the average driver. One can assume that a median figure to use would be $.79 per kilometre.

- The current contract taxi rate by which the Wheel-Trans subscription taxi is provided was put into place on February 1, 1982 and is $1.567 per mile or $0.973 per kilometre.

- A public taxi meter rate increase was put into effect in April, 1981 and a more recent fare increase of 10.8% was put in effect as of October 1, 1982. To make this meter rate comparable with the contract taxi rate of February 1, 1982, one must add a pro-rated fare increase of 6% to the meter rate ($\frac{10 \text{ months}}{18 \text{ months}} \times 10.8\% = 6\%$).

- Discussions with operators also indicate that taxi cab operators will earn an additional 10% to 15% on top of their fare in tips. One can assume that average earnings in tips would be 12.5%. The cost of tips should be included with the IBI quoted costs to ensure that a driver earns a fare comparable to that which he would make with a regular public fare. Such a percentage is applied across the board by most commercial charge account customers of taxi services.

- All taxicab companies will levy a service fee of about 5% of total costs to "charge account" customers. These are customers who are billed at the end of the month for taxi services they may have received. Because the taxicab company has to pay the driver immediately and may itself not receive payment for 6 to 8 weeks, it must recover the costs of advanced money through these charges.

- If one accounts for the items above the average charges using regular cab rates should be \$0.79/km x 1.06 x 1.125 x 1.05 = \$0.989/km.

- Comparing the metered taxi rate with the contract taxi rate, there is about a 2% difference in extra costs if one were to switch to the much more complex administrative and monitoring structure of using metered rates. Thus, it appears that the conclusions in the IBI report are incorrect when they suggest that regular metered

rates would be required to provide the most economical method of taxi service. If one includes the inflation factors, cost of tips and the costs for charge accounts one finds that the regular metered rate is more expensive.

- Thus, in conclusion, the contract taxi rates which have been established through the tendering process appear to be fair and reasonable when compared with the regular metered taxi rates.

- However, the area in which considerable cost savings could be achieved are through the non-payment of dead mileage, or that mileage which occurs in going from the last dropoff to the next pickup with no passenger on board. Analyses done by the consultant on the subscription routes showed that about 22% of all mileage was dead mileage and would not be paid if regular taxi fare policies were adopted. Some comparable statistics for an exclusive ride taxi service (Intercab Inc., Mississauga) indicate that about 48% of the typical shift is spent as non-productive time in which there is no passenger or parcel carried.[1] The lower proportion of deadhead time on the Wheel-Trans system occurs as a result of more efficient scheduling and an attempt to utilize all available hours by assigning alternate times to certain trip requests.

- From an administrative and monitoring standpoint, it would be preferable to retain one contractor for the supply and operation of vehicles, while utilizing the

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1 International Aeradio Ltd. A Case Study of a Manual Dispatch System for a Taxi Company - Intercab Inc., Mississauga, Transport Canada TP2081, December 1979.

taxi industry when necessary with a fare structure which is based on distance criteria. With TTC Wheel-Trans staff scheduling shared ride runs, the taxi operators would be told the maximum cost for a given trip, as is the current policy. This prevents the taxi operator from possibly selecting a circuitous route and inflating the cost of the trip. It also allows for good financial control of the daily expenditures for trips.

4.3 Cost Comparison of Wheel-Trans Contract Taxi and Wheel-Trans Contract Station Wagon Rates (Base Date of February 1, 1982)

The following compares the costs of operating the ambulatory only portion of the Wheel-Trans service with either contract taxis or contract stationwagon vehicles.

- From the TTC Financial and Statistical Report for January 1, 1982 to August 28, 1982

Taxi Trips	25,393
Taxi Miles	159,694
Taxi Hours	12,869

Therefore the average speed of the taxi service is 159,694/12,869 = 12.41 mph = 19.98 km/hr

Van Trips	147,538
Van Miles	1,323,471
Van Hours	99,831

Therefore, the average speed of the van service is 1,323,471/99,831 = 13.26 mph = 21.35 km/hr

The average of the two speeds is fairly similar although the lower speed of the taxi service is probably due to the fact that the service operates only during the peak rush hours.

- The cost of providing the contract taxi service from January 1, 1982 to August 28, 1982 is
  159,694 miles x $1.567/mile = $250,240.50

- The cost of providing a similar ambulatory-only subscription service, but using station wagons provided by the bus contractor is
  12,869 hours x $18.691/hour = $240,534.48

- Thus savings of about 4% or $9,621.38 would have been realized this period in provision of ambulatory-only subscription service if station wagons had been utilized rather than the contract taxicab service.

4.4 Cost Comparison of Contract Station Wagon and Contract Bus Rates (Base Date of February 1, 1982)

The current bus contractor now uses two ambulatory-only vehicles in the form of station wagons at a rate of $18.691 per hour. This is approximately 75% of the rate of operation for a lift-equipped bus ($25.175 per hour) and means that the cost of contracting for four station wagons is identical to that of operating three lift-equipped buses.

4.5 Cost Summary

A summary of the average operating costs under various modes is shown in Figure 2. Because the taxi rates are dependent generally on a distance rather than a time basis, a more accurate description of the cost formulas showing their dependence on speed is seen graphically in Figure 3. It should be noted that the current average operating speed of a taxi vehicle in subscription service is about 20 km/hr.

Thus currently, the contract stationwagon with no payment for dead time is the most economical means of

providing ambulatory-only service. If the current stationwagon contractor can provide the service on such a cost basis he should be considered, since he would be providing a higher quality vehicle at the most economic rates.

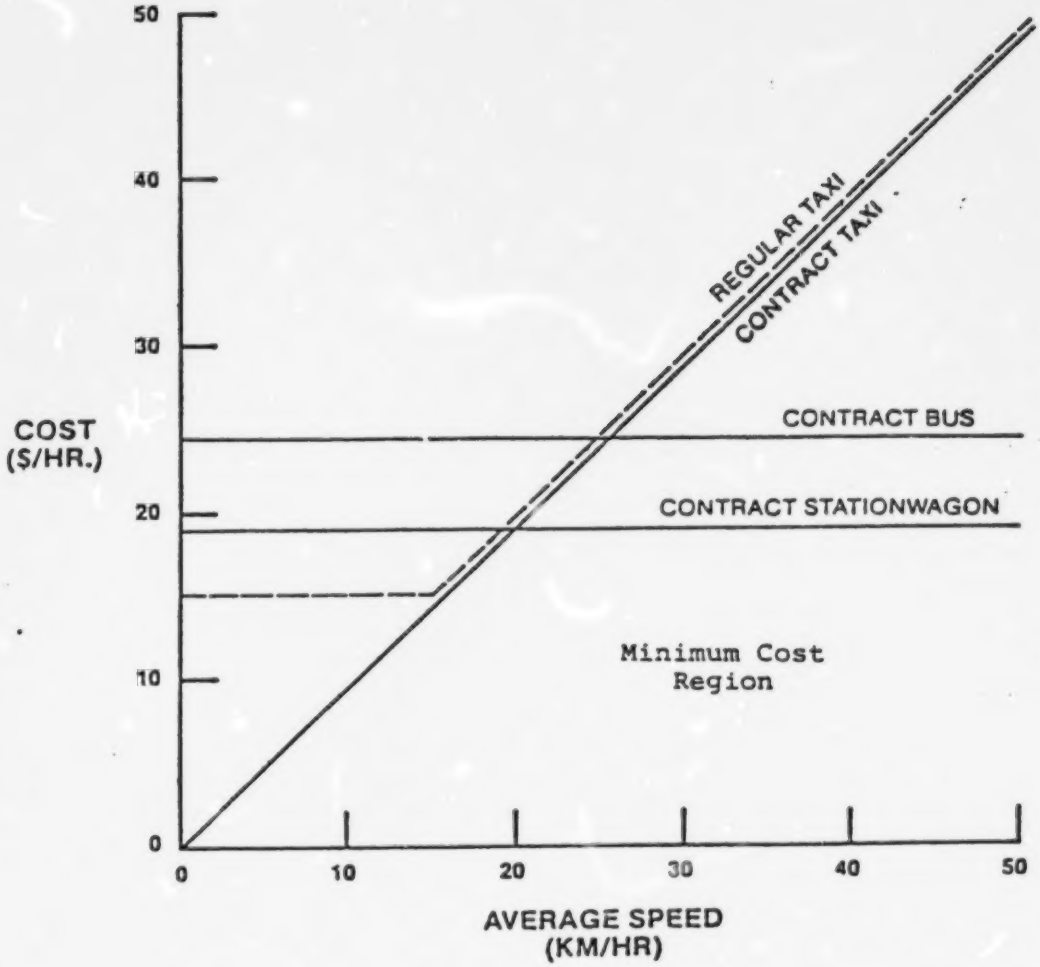
Figure 2
Summary of Unit Operating Costs

Contract Station Wagon (Without Dead Time)[1]	$14.95/hr
Contract Taxi (Without Dead Time)[1]	$15.56/hr
Metered Taxi (Without Dead Time)[1,2]	$15.83/hr
Contract Station Wagon[3]	$18.69/hr
Contract Taxi[3]	$19.45/hr
Contract Lift-equipped Bus[3]	$25.18/hr

Notes:
1. Dead Time is 20% of Total Time
2. Tips are 12.5% of Fare
3. Service currently provided by these modes
4. Taxi rates assume average operating speed of 20 km/hr.
5. Base date of February 1, 1982.

The Ministry of Transportation and Communications funding arrangements and a desire to run a cost efficient service will require that the policy of shared rides be continued. There was some discomfort expressed by the taxicab operators at the concept that metered rates be used for shared ride services and that there be only one initial drop charge at the beginning of a long route which may see several passengers picked up and dropped off. This is because such an operation is currently not practised and taxi drivers could normally make more money by delivering a series of regular exclusive ride routes, each of which would have an

Figure 3. Cost Comparison of Various Service Provision Options



Cost Formulas (February 1, 1982)

1. Regular Taxi = Maximum of $0.989/km or $15.03/hr.
2. Contract Taxi = $0.973/km
3. Contract Station Wagon = $18.691/hr.
4. Contract Bus = $25.175/hr.

initial drop charge during this same time. The present contract arrangements that the TTC has with the taxicab industry avoid these problems and show that the TTC is paying them on a distance basis, equivalent to their earnings with general public taxi earnings.

Legislation currently exists in the Metro Licensing Commission bylaws which allows the TTC to contract for taxi services at rate structures different from regular metered rates.

Section 91 of Schedule 8 to Bylaw 107-78, relating to owners and drivers of cabs states that "Sections 69 and 74 of this Schedule (pertaining to the regular rate structure to be charged) do not apply to a taxicab service provided to one or more physically handicapped persons pursuant to an agreement between any owner or taxicab broker and the Toronto Transit Commission".

This, for instance, allows the TTC to arrange a rate structure which is based solely on travelled distance and has the route distance determined by the TTC rather than the taxicab driver. This also allows the TTC to accept a tender for supply of service which would be below regular metered taxicab rates. If a tender which is out of line with regular taxicab rates is received, the TTC has the option of rejecting all tenders and using the current rate structure which is based on a combination of fixed, distance and time related charges. However, the costs of trips under such a rate structure are virtually impossible to monitor because one is reliant on the driver to supply the meter cost information. Such a system would result in budgeting problems because of the variation on a day-to-day basis of the costs of identical trips. Also, one is reliant on the driver to not take a circuitous route or make unscheduled stops on the route.

Since it appears that the current contracted rate structure with the taxicab companies is in line with regular metered rates, it is recommended that the distance based structure be retained, unless it is found that the unit rates are higher than that which would be obtained under a combination of the metered rates and a more complex monitoring and administrative structure.

4.6 Operational Considerations

The purpose of this section is to identify non-economic factors which affect some of the service options.

Public Attitude

Concern has been expressed at the concept of segregating the ambulatory and wheelchair disabled. However, the main concern results from the fact that to accommodate an increased number of ambulatory only vehicles and maintain the same overall budget, there will need to be some reduction in the number of lift-equipped vehicles.

A re-scheduling study has shown that there could be a dramatic increase in the number of rejected bookings and a loss in flexibility if the number of lift-equipped vehicles is reduced during low demand periods. This change would also reflect negatively on the public's perception of the operation of the Wheel-Trans service.

General Shared Ride Taxi

Discussions with the Metropolitan Toronto Licensing Commission indicate that they are prepared to issue additional taxicab licence plates to accommodate a demand from ambulatory Wheel-Trans patrons.

It was felt by Licensing Commission staff that a general public shared ride service in the Metropolitan Toronto area would not be practical. Shared ride taxi systems do exist in many communities, but these are generally ones which are of a smaller size than Metropolitan Toronto and which have little or no public transit service. Because of the long travel distances in the Metropolitan Toronto area (an average of 9 km per trip) a possible 30% reduction in the distance based fare due to shared rides would still be about 7 times as expensive as the comparable public transit fare. Generally, public shared ride taxi systems become practical only in small communities where the distances are short and thus the fares are low and there is no alternative public transit which can provide service at a lower rate.

Vehicle Capacity

The current vehicle capacities are as follows:

Taxi or Stationwagon:	3-4 Ambulatory	
Lift-equipped Bus :	3 Ambulatory	& 5 Wheelchair
	4 Ambulatory	& 4 Wheelchair
	5 Ambulatory	& 4 Wheelchair
	Ambulatory	& 3 Wheelchair

The current vehicle capacity of 4 ambulatory for a regular automobile does not appear to be a major constraint. The AM and PM rush hour periods normally determine the size of the vehicles required because of the high trip peaking characteristics during this period. The distribution of the maximum load carried by a vehicle in relationship to its capacity can be seen in Figures 4 and 5.

There appears to be a fairly varied distribution of maximum passenger loads among both the van and taxi subscription routes. More taxi routes are scheduled close to capacity than van routes, indicating that the 4 passenger

Figure 4. Cummulative Distribution of Maximum Passenger Loads Among Subscription Van Routes

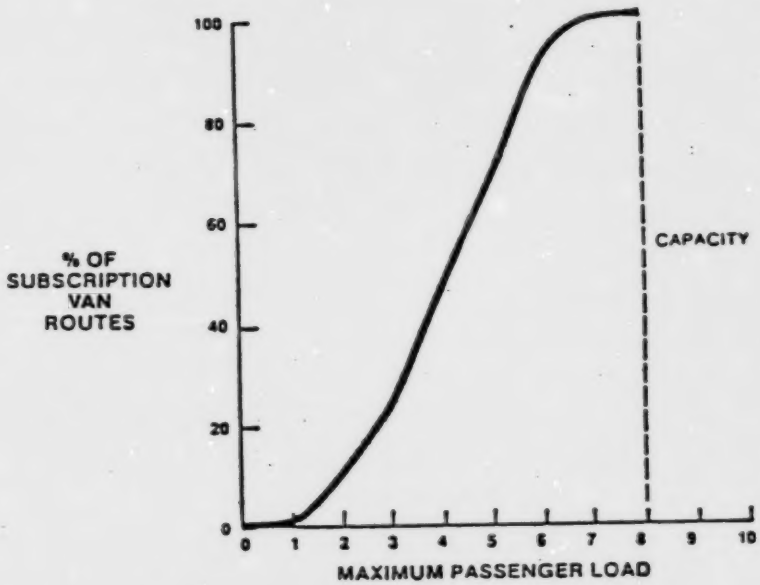
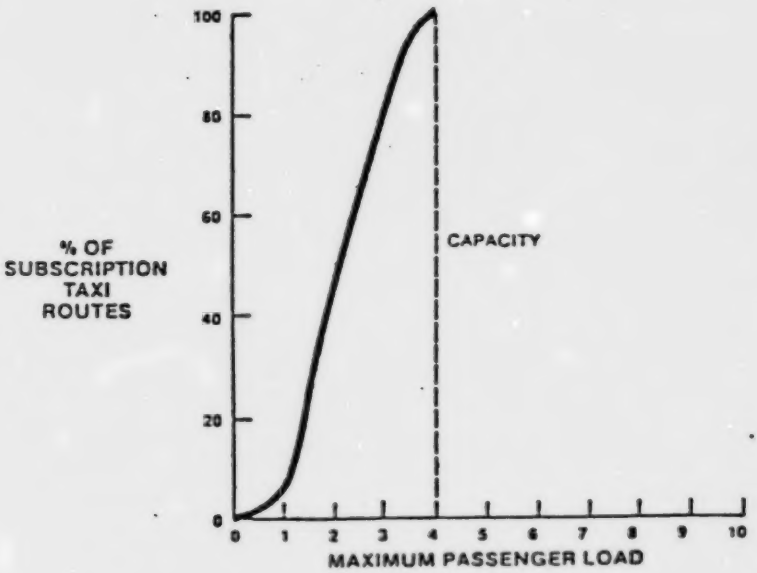


Figure 5. Cummulative Distribution of Maximum Passenger Loads Among Subscription Taxi Routes



taxi is slightly too small a vehicle for efficient operation during the AM and PM subscription runs. The bus vehicles are of a proper size, since even during the maximum load there is one unoccupied position. It can be noted that 50% of the van routes are required to carry more than 4 passengers.

There are occasions when the capacity of an ambulatory vehicle is exceeded and a second vehicle is required. Under such circumstances, it may be more advantageous to operate one van rather than two taxicabs. Operating savings of up to 33% can result on such runs by the use of this strategy.

Scheduling Flexibility

Because of the need to accommodate escorts, group trips, etc., there will always be a need to accommodate ambulatory passengers on lift-equipped vehicles. There are also many occasions that an ambulatory passenger could be conveniently placed on a van route with no additional cost and thus save the costs of providing the extra taxi vehicle. The TTC schedulers should retain the flexibility of determining the most cost-effective means of transporting the ambulatory passenger, whether it be by placing him in a lift-equipped vehicle or in a regular passenger taxi. This co-ordinated effort will result in the most efficient operation of the Wheel-Trans service.

Driver Training

The use of general vehicles from the taxi cab industry will result in the loss of the ability to have drivers who have been specially trained to deal with the disabled. The current taxi and van arrangements for subscription service allows for the selection of drivers, and the development of a good user rapport due to the fact that the drivers perform the same routes daily.

The strategy of making taxi service available on 1 or 2 hours notice would require that any qualified taxi driver from a particular company be responsible for adequately handling and transporting the disabled passenger. The interpersonal and technical skill levels of this larger population will be much lower than those of drivers whose profession it is to transport the disabled. Drivers such as those who are provided under the van contract could receive superior training and develop good experience with the disabled.

It should be noted that the taxi industry has a fairly high turnover rate in their drivers and that this results in a large number of new drivers who will be inexperienced in dealing with the special needs of the disabled.

Dispatching and Radio Communications

An important aspect to a highly reliable and efficient service is the ability of the TTC dispatchers to directly communicate with the drivers in their vehicles. This will be accomplished by the TTC staff for vehicles which are dedicated to the Wheel-Trans service as of May 1, 1983.

Since the regular taxi cab vehicles are not dedicated to the Wheel-Trans service, the Wheel-Trans dispatcher must communicate information to the drivers via an intermediate link, the taxi company's dispatcher. There will be some loss of control due to this link and the inability of the TTC dispatcher to directly inform himself of the status of the drivers and their vehicles.

Currently, the majority of the trips are scheduled at least one day in advance. This allows the particular trip information to be given to drivers on written driver run sheets. A program is underway to implement a Computer-Aided Reservations, Scheduling and Dispatching System which in its

future phases is envisioned to incorporate digital radio communications. This system will enable the present driver's run sheets to be replaced by character displays in the vehicles to inform drivers of their pickup and dropoff locations and allow last minute changes to the schedule to be made more easily. This would be similar in concept to the Communications and Information System (CIS) that is being implemented on T.T.C.'s fixed route buses. However such a system requires specialized radio equipment, which would not be available in regular taxicab vehicles.

In general then, from an operational standpoint the use of a dedicated fleet with specialized vehicles and drivers offers a better monitoring and operational control of the service than that which could be provided by the use of taxis.

5. CONCLUSIONS

Upon review of the ambulatory demand and the service options, it would be preferable to retain the current rate structure for ambulatory vehicles. A rate which is based on distance criteria only or on an hourly rate is preferable to a taxi meter rate from an administrative and monitoring standpoint and allows the TTC to inform the contractor of the cost for a trip.

An economic analysis has also shown that cost savings of about 4% would result if the TTC were to contract its ambulatory-only service with the van contractor rather than the current taxi contractor. The provision of such service by the van contractor offers the following additional advantages:

- ability to provide a higher quality ambulatory vehicle such as a stationwagon;

- improved dispatching and control since the TTC's dispatcher, after partial integration, would directly communicate with the ambulatory vehicle and help to resolve any customer problems;

- ability to put in place the digital radio communications feature of the Wheel-Trans Computer-Aided Reservations, Scheduling and Dispatching System in all the Wheel-Trans fleet;

- the use of a small group of drivers who have been specially trained and have specific experience in dealing with the special needs of the disabled.

RECOMMENDATION

It is recommended that the current van contractor be contacted to investigate the possibility of supplying a higher quality ambulatory vehicle, such as the current stationwagon or GSM small vehicle, at a rate comparable to that of the current taxi service. Simultaneous with this, accounts and an appropriate payment scheme should be set up with the taxi industry to allow extra service to be made available on two hours notice to accommodate unusually high peak demands.

APPENDIX A

Subsidy Eligibility of Single Ride Taxi Services

Ontario

Tel: (416) 248-3785

Ministry of
Transportation and
Communications

Transit Office,
1201 Wilson Avenue,
3rd Floor, West Tower,
Downsview, Ontario.
M4S 1Z2

File No. T 201-8.70

November 8, 1982.

Mr. Allan K. Hewson,
Manager,
Wheel-Trans Operations,
Toronto Transit Commission,
1900 Yonge Street,
Toronto, Ontario.
M4S 1Z2

Dear Mr. Hewson:

Re: Subsidy Eligibility of Single Ride Taxi Services for the Physically Disabled

First, please allow me to apologize for the delay in formalizing a reply to your question regarding the above. This was due to a misunderstanding on my part at our informal meeting in your office on September 20.

The Minister's authority to subsidize transit operations is contained in the Public Transportation and Highway Improvement Act and is governed by the definition of public transportation contained therein.

Furthermore, the single ride mode would be typical of a normal taxi operation in which the vehicle is in effect "reserved" for the sole use of the originating passenger. Such an "individualized" service would conflict with the intent of the definition of public transportation, rendering it ineligible for provincial subsidy.

I trust the above clarifies our position concerning the subsidy question for single ride taxi.

Yours truly,

M.R. Ernesaks,
Manager.

MCE;fs

NOV 12 '82